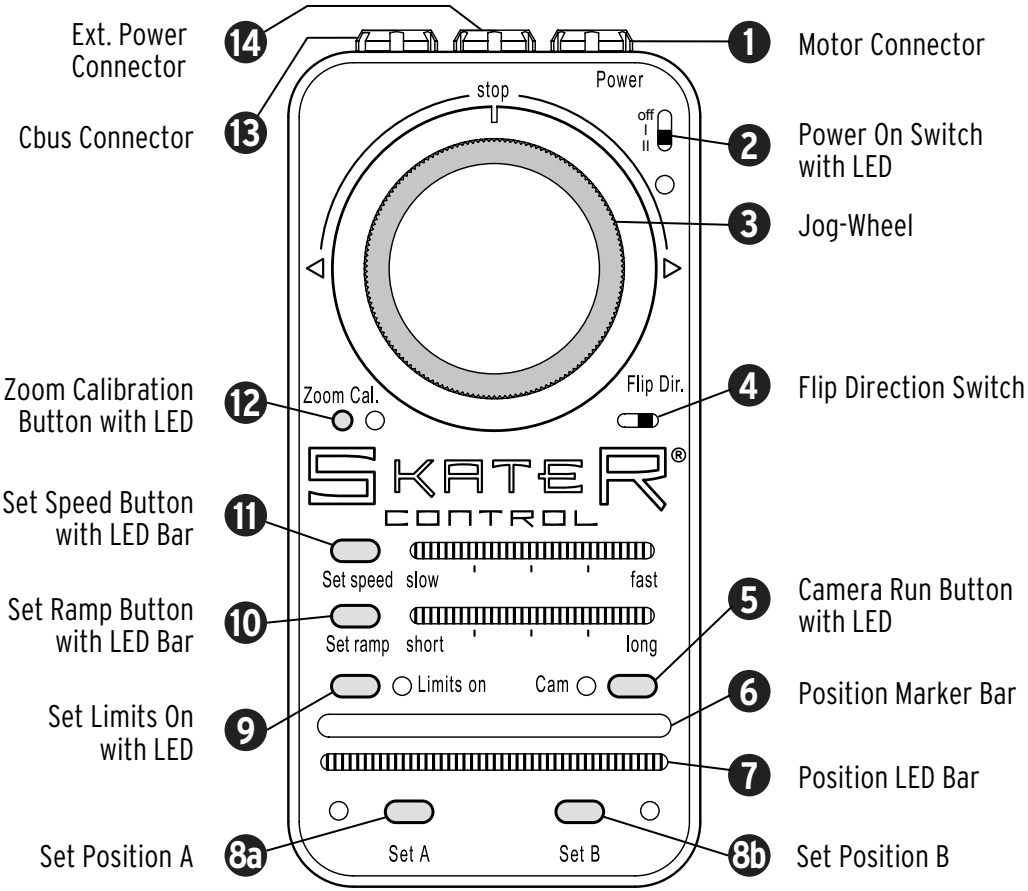
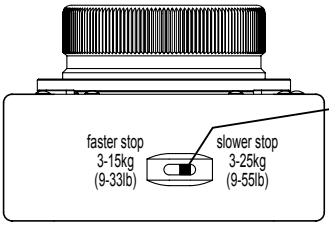
Operating Instructions



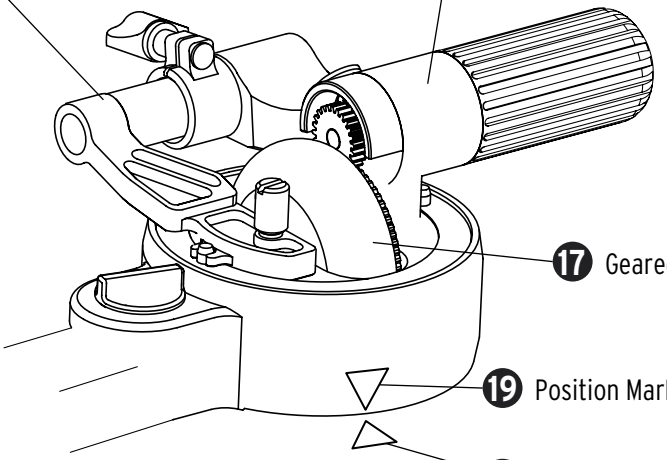
Version 12-06

P+S TECHNIK
Professional Cine Equipment Manufacture

Art.No. 22330 // v0802



15 Ramp Style Switch



18 SKATER® Mini Motor Holder (21258)

16 P+S Technik SKATER® Motor (21821)

17 Geared SKATER® Wheel

19 Position Mark on SKATER® Shoulder

20 Position Mark on Tracking Surface

⚠ WARNING

Harm to people or damage to equipment may occur!

Users should read this information before using the SKATER® Control. The Control Unit SCU should only to be used with original SKATER® Motor, specified third party motors or the SKATER® Turntable.

Only to be used by experienced grip and camera personnel. Never leave a SKATER® Control and/or a SKATER® Camera Dolly unattended! Always start operating at extremely low speeds. Only accelerate a SKATER® Camera Dolly to a speed that allows safe stops under all circumstances. If the motor orientation is changed by 180°, the tracking direction will reverse!

Make sure the SKATER® Camera Dolly is always running on a levelled and stable surface. Mount a stable, surrounding safety shoulder to prevent a SKATER® Camera Dolly from running over the edge of a tracking surface. Cameras with a total weight of more than 25kg (55lb) should not be used together with a SKATER® Control Unit.

The SKATER® Control Unit SCU is designed to remote control camera movements of a SKATER® camera dolly, a SKATER® Turntable or the image rotation of the SKATER® Scope. Start and end points, as well as ramps and speed can be memorized. The system has been designed for shorter camera moves and is best to use for tracking shots of less than 1m (3ft).
It can also be used as a sophisticated zoom control.

Motor Connection

The SKATER® Control is working with the following motors: P+S SKATER motor, Heden digital motor M26VE, Arri CLM2. Do not use any other motor than the specified ones. The system will automatically detect the connected motor and set the motor driver accordingly. Motors are connected through the centered 12-pin motor connector **(1)**. All motors can be hot plugged. As long as the SCU cannot detect any motor the LED on the power switch **(2)** will flash red.
To mount the motor **(16)** on the SKATER® Camera Dolly a SKATER® Motor Holder **(18)** (#21258) is required. It is also necessary that the wheels are equipped with a gear. If your SKATER® Dolly is an earlier serial number with no gears please contact P+S Technik for an upgrade to the geared SKATER® Mini precision wheels (call for required order no. #22219 very few SKATER® Dollies would also need a drilling template for the motor bracket).
The Arri CLM2 motor is equipped with an internal slipping clutch, which can cause uneven moves on very fast ramps. In this case a slower ramp has to be chosen.

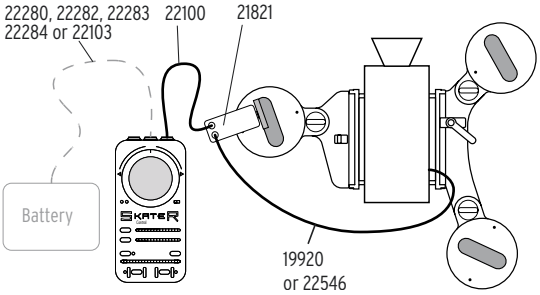
WARNING: Never use any motor or power cables if they show any sign of damage. Always check the basic motor function first by using the jog-wheel with an unengaged motor.

Power Supply and Power Switch

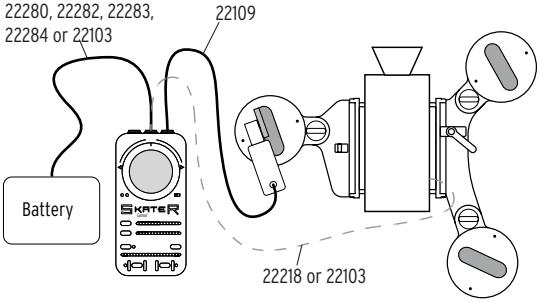
The input voltage can range from 10V-35V. The unit can be either powered thru the 5pin Ext. Power Connector **(14)** or the 12pin motor connector **(1)**. Find detailed information under ‚Configurations' on the right hand side.
The SKATER® Control Unit SCU is equipped with an internal voltage booster, bringing up any voltage, between 11V and 26V to 26V to maintain maximum performance. Setting the power switch **(2)** to position II will activate the booster, which is the recommended setting.

Position I will disable the voltage booster, if a battery in the lower voltage range is not capable to deliver the required current. In this case the motor might not reach its maximum speed. A constant red light on the LED indicates an input voltage below 11V. Any memorized values will be preserved for at least 5 minutes if the power is switched off or the battery is disconnected.
It is recommended to use the SKATER® Control with batteries rather than power supply units, as these are often not capable to deliver the required current, which can effect the smoothness of a movement.

Configurations

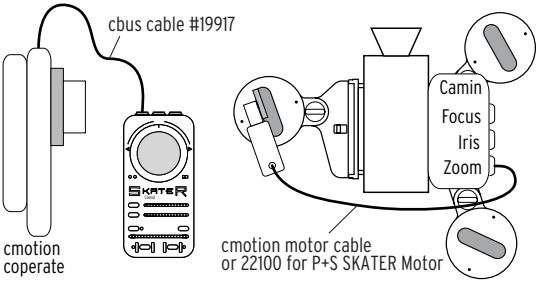


SCU with SKATER Motor:
When used with the original P+S SKATER® Motor (#21821) the SCU is usually powered through the camera with a 3-pin RS connector on the motor by using a RS cable (#19920 or 22546). With Arri cameras the run function can be activated.
Only one cable (#22100) runs between SCU (#21502) and the motor.
Alternatively the SCU and the motor can be powered through an external power supply cable (#22280 for 24V/XLR3pin, #22282 for 12V/XLR4pin, #22283 for 12V/XLR5pin, #22284 for 12V/Fischer 11-pin, #22103 open end).



SCU with third party Motor:
When a third party motor (Heden or Arri CLM2) is used together with the SCU, both are powered with one cable (#22280 for 24V/XLR3pin, #22282 for 12V/XLR4pin, #22283 for 12V/XLR5pin, #22284 for 12V/Fischer 11-pin, #22103 open end) from an external battery or the camera.

When connected to the camera with a RS connector, camera run functions on Arri cameras are available.



Wireless Control with cmotion:
When used together with a cmotion wireless Lens Control System, the SCU can be directly connected to the hand unit 'coperate' (#19917). All functions are transmitted wireless to the receiver 'camin' and die SKATER® motor would use the 3rd axis, usually used for the zoom lens. This configuration works with all specified motors.
A wide range of different cameras can be started with the cam.run button. Depending on the current software of the cmotion lens control system a software update might be neccessary. Please contact P+S Technik for further information.

WARNING: When the P+S SKATER® Motor is connected to the camin, it is fully powered by the camin. Do not connect the P+S SKATER® Motor with an additional RS 3pin cable as it might destroy the camin!

Jog-Wheel, setting Speed/Ramp

Turning the jog-wheel **(3)** to the right or left will start the motor to go back or forth on a speed defined by the angle of the jog-wheel. If the jog-wheel is released the motor will stop with a minimum ramp.
The maximum speed can be set when the motor is stopped by pressing and holding the ‚Set speed'-button **(11)** while the jog-wheel is turned. A blinking LED on the speed bar shows the adjustments made. To store the current value, release the set button. The maximum speed with the P+S SKATER® Motor is 0.6m/s (2.0ft/s), with Heden M26VE or Arri CLM 2 a maximum speed of 0.35m/s (1.1ft/s) can be reached (with 24V or boosted power supply).
A ramp for acceleration and deceleration can be set, when the motor is stopped by pressing and holding the ‚Set ramp'-button **(10)** while the jog-wheel is turned. A blinking LED on the ramp bar shows the adjustments made. To store the current value, release the yellow set ramp button.

An additional Ramp-style switch **(15)** on the bottom side of the SCU allows to alter the character of the ramp. The left position will give a shorter stop and is recommended for cameras from 3 to 15 KG (7-33lb). The right position gives a slightly longer ease in and out when stopping and can be used for all cameras from 3 to 25KG (7-55lb).

Set A, Set B, Position Bar and Activation of Limits

By pressing the ‚Set A' button **(8a)** or ‚Set B' button **(8b)** two different positions on the path of the SKATER® Dolly can be memorized. A red LED on the side of each button indicates that a value has been stored. Pressing A and B at the same time will clear the memory.
As soon as A and B have been entered, the position LED bar automatically updates the current position. LEDs in yellow show the actual position in between A and B, red indicates a position outside, while green is used to show the SKATER® Dolly is on position A or B.
By pressing the ‚Set Limits on'-button **(9)** the jog-wheel only allows steering in between position A and B, with the predefined ramp and speed. Releasing the jog wheel will still stop the motor with a minimum ramp. It is possible to overwrite A or B when limits are activated. To enter a new position which is not in between A and B the limits have to be temporarily deactivated.

Flip Direction Switch

The ‚Flip Direction Switch' **(4)** allows to change the orientation of the jog wheel, for example if the SKATER® Camera Dolly is operated from the opposite side. It also swaps the LED position of A and B and the display of the position LED bar **(7)**.

WARNING: If the motor orientation is changed by 180° on a SKATER® Dolly wheel, the tracking direction will reverse! A memorized limit will lie in the opposite direction! In this case a new limit has to be stored! Flip Direction will only affect the orientation of the jog-wheel, but not the actual stored positions for A and B.

Accuracy of the SKATER® Control

Although the motor is precisely reaching a predefined position the SKATER® Control is not designed to be used as a motion control device for multiple exposure passes. As the SKATER® Camera Dolly is not running on tracks, a small amount of drift will occur. Heavier cameras, faster ramps and higher speeds can increase the amount of drift. Use position marks **(19)** on the shoulders of at least two wheels and the tracking surface **(20)** to easily reset to the original position if any drift has occurred. This reset can be done within seconds and is a quick way for precise operation and perfect focus distances even in macro photography.
Make sure to avoid any tension from power, motor or video cables.

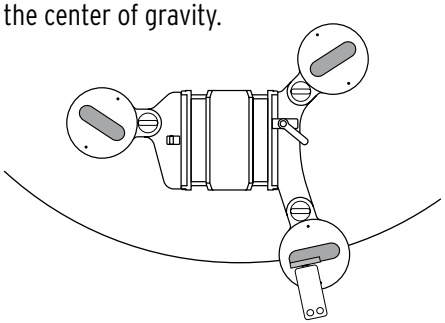
WARNING: Even a small amount of drift might add up after a number of takes, which can have an effect on the path, start and end point of a SKATER® dolly move. Make sure to reset to the original position of the SKATER® Dolly for save operation.

TIP: For best performance it is recommended to use the new precision wheels (showing an black anodized center), part no. #22622 which show a significant reduction on drift and an improvement in accuracy. They can be ordered as a spare part utilizing existing gear rings. For further information please contact P+S Technik.

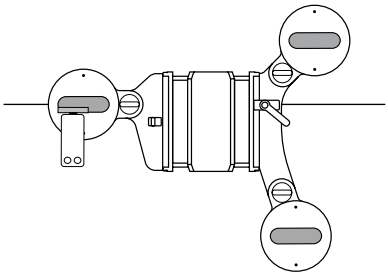
Set up a Move

It is recommended to set up a track or a curve on the SKATER® Dolly with an unengaged motor. Make sure all wheels are properly set to perform the move your intending to do and check if the SKATER® Camera Dolly runs smooth.
Engage the motor and make sure the position brake on the SKATER® Dolly is disengaged. Always start at a low speed and never exceed speed or a ramp to a point which would not allow a save stop under all circumstances.

For best performance it is beneficial to mount the motor on the outer radius if the SKATER® Dolly is set up for a circular move.
For linear moves it is recommended to use the wheel which running direction aims closest to the center of gravity.



curved move: outer radius



linear move: center of gravity

Camera Run

If the SCU is connected to a camera with an RS connector (most common on Arri cameras) using the ‚Ext. Power Connector' **(14)** or the ‚Motor Connector' **(1)** the camera can be started and stopped.
If connected to the hand unit ‚coperate' of the wireless cmotion lens control system a wide range of supported cameras can also be started and stopped directly from the SCU.
A green light indicates speed, while a red light indicates run up, async or error. This function of a control LED requires the camera to support the RS protocol.

Zoom Control

The SKATER® Control can also be used as a sophisticated zoom control. This feature is only available with a lens control motor (Heden M26VE or Arri CLM2). Due to its design the P+S Motor motor cannot be used for lens control purposes.

To switch to zoom mode, press the 'Zoom cal.'-button **(12)** by using a small tool for more than a second. To avoid an undesired activation of this function, this button has been recessed. The yellow LED indicates that the zoom mode is now activated and the calibration is started. In zoom mode the power of the motor is lowered, not to damage the lens.
During calibration the system is checking for the mechanical end stops of the lens and is limiting all motor movement to the zoom range of the lens. With the P+S Technik Motor the zoom function is disabled and calibration will not start

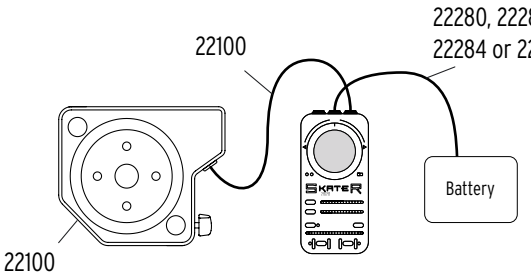
You can still set an A or B position and activate limits when in zoom mode. The jog-wheel, as well as speed and ramp setting and the activation of limits work similar to the normal mode.
To end the zoom mode, press the 'Zoom cal.'-button **(12)** again. Or switch off the system on the power switch **(2)**. Or disconnect the motor. To continue working in zoom mode after this feature has been terminated, you have to press 'Zoom cal.' again and recalibrate.

WARNING: Never switch to zoom mode when the motor is mounted on a SKATER® Camera Dolly, as during calibration the motor will start to move in order to search for a mechanical end stop.
Never operate the SKATER® Control with an engaged motor on a lens unless you are in zoom mode. Switch to zoom mode immediately after engaging the motor onto the zoom by pressing the 'Zoom cal.' in order to start the calibration.
Always disengage the motor from the zoom lens before leaving the zoom mode.

Controlling the Image Rotation on the SKATER® Scope
Because of its possibility to precisely reach a memorized position on a defined ramp in almost any speed the SKATER® Control is the ideal tool to operate the image rotation on a SKATER® Scope. It allows for instance to soft stop an image rotation on a perfectly levelled horizon. Depening on the support system, an additional offset bracket might be neccessary to reach the height of the image rotation gear on the SKATER® Scope.
Like in zoom mode this lens control requires a Heden M26VE or Arri CLM2 lens motor.

TIP: On the image rotation of the SKATER® Scope are no mechanical end stops. To operate the rotation with a SCU don't switch to the zoom mode, use it in normal mode.

SKATER® Turntable
The SKATER® Turntable (#23137) is a programmable single axis universal turntable with a build in motor to be controlled by the SCU. The two unit are connected to each other with the standard Control Cable (#22100) and powered thru an external battery (similar to a third party motor). Various cables are available depending on the power outlet of the battery.
The built in motor is automatically detected and all setting are made automatically.



All features of preprogramme stops and ramps, speed control etc. work similar to the control of a SKATER® Camera Dolly.

Software Updates / ext. Trigger
If required, software updates on the SCU can be executed on every PC over a serial RS-232 port (an USB to serial adapter might be neccessary) utilizing a RS-232 to cbus cable (#20173). For more information please contact P+S Technik.

An external trigger GotoA and GotoB is implemented in the 'Ext. Power Connector' (14) which allows to remote control the GotoA and GotoB feature. For more information please contact P+S Technik.